

**Michigan
PROCEDURES**
CONTINUOUS POSITIVE AIRWAY PRESSURE
ADMINISTRATION
(CPAP)

Initial Date: 02/15/2012
Revised Date: 11/17/2025

Section 7-5



Continuous Positive Airway Pressure (CPAP) Administration

CPAP is intended for use on patients who have not responded to initial treatment, meet one or more of the indications listed below and have no contraindications for use. Contraindicated patients and those that do not meet the inclusion criteria will be treated according to existing protocols without the application of CPAP.

CPAP Machine Requirements: CPAP machines must have adjustable cmH₂O minimally up to 10 cmH₂O.

Indications:

Severe respiratory distress for the following which has not responded to initial treatment:

1. CHF/Pulmonary edema
2. Pulmonary edema/near drowning
3. Hypoxia (i.e., SpO₂ less than 92%) after application of supplemental oxygen
4. Acute exacerbation of asthma/COPD

Contraindications:

1. Respiratory/cardiac arrest
2. Uncorrected Hypotension
 - a. Adult (≥ 10 years of age) less than 90mmHg systolic
 - i. NOTE: $70 + (2 \times 10 \text{ years of age}) = 90 \text{ mmHg}$
 - b. Pediatrics (< 10 years of age) less than $(70 \text{ mmHg} + [2 \times \text{age in years}])$.
3. Small adult CPAP mask does not properly fit the patient and/or pediatric size CPAP mask is not available
4. Inability to maintain patent airway (poor clearance of secretions and/or unresponsive)
5. Major trauma, pneumothorax, penetrating or blunt chest trauma and blast injury
6. Active vomiting or active GI bleeding with emesis
7. Facial trauma and/or facial burns

Procedure

1. EXPLAIN THE PROCEDURE TO THE PATIENT.
2. Apply appropriately sized and properly sealing CPAP mask per manufacturer's recommendations.
3. Place the patient on continuous pulse oximetry.
4. Secure the mask with provided straps and tighten to obtain a good seal, check for air leaks.
5. Continue to coach the patient to keep the mask in place, readjust as needed.
6. Begin with 5 cmH₂O with titration as necessary and as tolerated.
7. Advise medical control of CPAP use during radio report.
8. If respiratory status deteriorates, remove the device and assist ventilations with a BVM/supplemental oxygen; place an appropriate airway control device.
9. Obtain/monitor vital signs.

Michigan PROCEDURES
CONTINUOUS POSITIVE AIRWAY PRESSURE ADMINISTRATION (CPAP)

Initial Date: 02/15/2012

Revised Date: 11/17/2025

Section 7-5

10. Administer medications, per appropriate protocol, as indicated.
 - a. The CPAP mask can be briefly removed for oral or SL medication (e.g., nitroglycerin) administration.



11. Contact medical control and consider sedation to reduce anxiety per **Patient Procedural Sedation- Procedure Protocol.**

Monitor

1. Level of consciousness
2. Gastric distention
3. Blood pressure
4. SpO2
5. Lung Sounds

Discontinuing CPAP Therapy



1. CPAP therapy needs to be continuous
2. Discontinue CPAP use, assist ventilations if necessary and contact medical control if:
 - a. Patient cannot tolerate the mask.
 - b. Patient has marked deterioration including respiratory arrest and/or decreasing LOC.
 - c. Patient has, or is at risk for, vomiting.
 - d. Patient develops signs of a pneumothorax.
 - e. It is determined to be clinically detrimental.



3. Discontinuation of CPAP for other reasons, contact Medical Control prior to discontinuation.

Special Notes:

1. Upon arrival at receiving facility, do not remove CPAP until hospital therapy is ready to be placed on the patient.
2. CPAP may be used on DNR patients not in arrest.
3. Due to changes in cardiac preload and afterload during CPAP therapy, a complete set of VS must be obtained every 10 minutes (5 minutes in short transport situations).

Protocol Reference:

PHTLS (10th), Saunders (5th), Caroline (9th).

Schwerin, A., Kuhl, E., Goldstein, S. (2024, June 22). EMS Prehospital CPAP Devices. National Library of Medicine. Retrieved 10/18/24 from <https://www.ncbi.nlm.nih.gov/books/NBK470429/>